

Remarks

Reconsideration and reversal of the rejections expressed in the Office Action of December 28, 2004 are respectfully contended in view of the following remarks and the application as amended. The present invention relates to a surface treatment process, comprising: providing a hydrophillic surface; polishing said surface with a slurry that comprises a suspension of abrasive particles in deionized water and TMAH, whereby said surface is rendered hydrophobic; and thereby causing all of said abrasive particles to be removed when said surface is rinsed in deionized water.

Claims 17, 19 and 21 were rejected under 35 U.S.C. §102(e) as being anticipated by Andreas, U.S. Patent No. 6,358,325; claims 18, 22-24 and 26 were rejected under 35 U.S.C. §103(a) as being unpatentable over Andreas as applied to claims 17, 19 and 21 above, and further in view of Greiger et al., U.S. Patent No. 6,468,951. The Office Action states, inter alia, that it would have been obvious to use the TBAH or TMAH of Greiger with the process of Andreas for an effective cleaning composition. In order to enhance the prosecution of the present application, the claims have been clarified as noted above.

Claim 20 was rejected under 35 U.S.C. §103(a) as being unpatentable over Andreas as applied to claim 17 above, and further in view of Kirschner, U.S. Patent No. 5,509,971. The Office Action states, inter alia, that it would have been obvious to use the particle size of Kirschner with the process of Andreas in order to provide adequate surface removal of the substrate.

Andreas, U.S. Patent No. 6,358,325, relates to an integrated cleaner with scrubber for cleaning and scrubbing semiconductor substrates that includes a housing that contains both a cleaning module and a scrubbing module. The cleaning module is capable of performing a wet-cleaning process on a batch of the semiconductor substrates. Kirschner, U.S. Patent No. 5,509,971, relates to the removing of coatings such as paints, adhesives, etc. as well as scale and rust from hard surfaces including structural steel surfaces by a blast cleaning process.

As noted at, e.g., column 1, line 30 of Kirschner, large exterior surfaces are the substrates contemplated for treatment in that reference. As further noted at column 6, line 48 of Kirschner, steel panels containing mill scale, rust, etc. are examples of substrates contemplated for treatment. Indeed, these substrates are quite unlike those disclosed in Andreas, i.e.,

semiconductor wafers. Furthermore, there is no mention in Kirschner of applying its treatment to such comparatively small, delicate objects. Thus, Applicants respectfully contend that there exists no suggestion or motivation to combine the Andreas and Kirschner references in order to achieve the present invention as claimed, and prima facie obviousness is not established.

Claim 25 was rejected under 35 U.S.C. §103(a) as being unpatentable over Andreas in view of Greiger as applied to claim 22 above, and further in view of Kirschner. The Office Action states, inter alia, that it would have been obvious to use the particle size of Kirschner with the process of Andreas and Greiger in order to provide adequate surface removal of the substrate.

Greiger et al., U.S. Patent No. 6,468,951, discloses a composition prepared from water, hydrofluoric acid (HF) and tetraalkylammonium hydroxide (TAAH, preferably tetramethylammonium hydroxide (TMAH)) or tetraalkylammonium fluoride and solvent with or without HF or TAAH, which is used to clean residue from a semiconductor wafer, where the residue is formed as a result of a planarization process, such as chemical mechanical polishing. Note that this rejection is overcome based on the previous discussion.

For all of the above reasons, it is respectfully contended that the solicited claims define patentable subject matter. Reconsideration and reversal of the rejections expressed in the Office Action of December 28, 2004 are respectfully submitted. The Examiner is invited to call the undersigned if any questions arise during the course of reconsideration of this matter.

Respectfully submitted,

Date: 4/18/05

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